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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,401	09/11/2003	Masahiro Totsu	114184	3757

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EXAMINER

LE, DANG D

ART UNIT PAPER NUMBER

2834

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,401

Applicant(s)

TOTSU ET AL.

Examiner

Dang D. Le

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,8,11,13-17,24-29,31,32,35,37-58 and 72-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,8,11,13-17,24-29,31,32,35,37-58 and 72-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/18/05 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-5, 7, 8, 11, 13, 17, 24-29, 31, 32, 35, 37, 44, 45, 47-53, 72-76, and 80-83 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

3. The indicated allowability of claims 14-16, 38-43, 46, 54-58, 77-79, and 84-97 is withdrawn in view of the newly discovered reference(s) to Chao et al. (3,605,426), Aiken (1,944,726), Marshall (4,761,314), Naef (4,104,883), Noel (6,497,116), Katz (3,596,713), and Dobry (5,560,856). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 44, and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Chao et al. (3,605,426) and Aiken (1,944,726), individually.

Regarding claims 1, 44, and 54, Chao et al. shows all of the limitations of the claimed invention.

6. Claims 1, 3-5, 7, 8, 11, 13-15, 44, 54-58, and 72-78 are rejected under 35 U.S.C. 102(b) as being anticipated by Marshall (4,761,314).

Regarding claim 1, Marshall shows a coolant (for cooling drinker, Figure 1) comprising:

- A first component (11, beer, coke, water, etc.), and
- A second component (22, water, salt water, etc.) dispersed (by the drinker) in the first component in a state of being held by holding members (12), the second component (22) changes phase in order to absorb a predetermined amount of heat (from the first component).

Regarding claims 3-5, it is noted that Marshall also shows all of the limitations of the claimed invention such as water and water or water and beer.

Regarding claim 7, it is noted that Marshall also shows the second component absorbing the predetermined amount of heat without changing temperature (inside the holder 12).

Regarding claim 8, it is noted that Marshall also shows the second component (water, $4.180 \times 10^6 \text{ J/m}^3$) having a higher heat capacity than the first component (alcohol, $2.430 \times 10^6 \text{ J/m}^3$).

Regarding claim 11, it is noted that Marshall also shows the second component being a gel (when water is not completely frozen).

Regarding claims 13-15, it is noted that Marshall also shows the second component holding members being hollow, containing grooves and pores in Figure 2.

Regarding claims 44, 45, 47-52, it is noted that Marshall also shows all of the limitations of the claimed invention including a through hole in Figure 6.

Regarding claim 54, it is noted that Marshall also shows a method of cooling an object (glass 10), comprising:

- Holding a cooling substance (water, salt water) with a holding member (12);
and
- Dispersing the holding member (12) in a specified liquid (beer), wherein the cooling substance absorbs an amount of heat from a surrounding by undergoing a phase change between at least two of a solid phase, a liquid phase, and a gas phase to cool the object (10).

Regarding claims 55-58, it is noted that Marshall also shows all of the limitations of the claimed invention including the inside outside communication in Figure 6 and the cooling object is the glass (10 - could also be the surround air).

Regarding claim 72, the claim is similar to claims 1 and 8. As a result, it is also rejected.

Regarding claims 73-78, it is noted that Marshall also shows all of the limitations of the claimed invention.

7. Claims 1, 16, 24-27, 29, 31, 32, 35, 37, 44, 46, 72, and 79 are rejected under 35 U.S.C. 102(b) as being anticipated by Naef (4,104,883).

Regarding claim 1, Naef shows a coolant (Figure 1) comprising:

- A first component (water), and
- A second component (11) dispersed in the first component in a state of being held by holding members (8), the second component (11) changes phase in order to absorb a predetermined amount of heat.

Regarding claim 16, it is noted that Naef also shows all of the limitations of the claimed invention including the magnetic bodies (steel, column 3, line 14).

Regarding claim 24, Naef shows a method of cooling an object (tank 6) comprising:

- Circulating a coolant past the object, wherein the coolant includes a first component (water) and a second component (11) dispersed in the first component in a state of being held by holding members (8), the second component changes phase in order to absorb a predetermined amount of heat.

Regarding claims 25-27, 29, 31, 32, 35, and 37, it is noted that Naef also shows all of the limitations of the claimed invention.

Regarding claims 44, 46, 72, and 79, it is noted that Naef also shows all of the limitations of the claimed invention including a magnetic body (8 made of steel).

8. Claims 1 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Noel (6,497,116).

Regarding claim 1, Noel shows a coolant (Figure 1) comprising:

- A first component (14), and
- A second component (18) dispersed in the first component in a state of being held by holding members (16), the second component (18) changes phase in order to absorb a predetermined amount of heat.

Regarding claim 17, it is noted that Noel also shows all of the limitations of the claimed invention including the liquid phase to gas phase (column 2, lines 59-65).

9. Claims 24 and 80-83 are rejected under 35 U.S.C. 102(a) as being anticipated by Katz (3,596,713).

Regarding claim 24, Katz shows a coolant (Figure 1) comprising:

- A first component (5), and
- A second component (6') dispersed in the first component in a state of being held by holding members (6"), the second component (6') changes phase in order to absorb a predetermined amount of heat.

Regarding claims 80-83, it is noted that Katz also shows all of the limitations of the claimed invention.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 28, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naef in view of Marshall (4,761,314).

Regarding claims 28, 38, and 39, Naef shows all of the limitations of the claimed invention except for the same substance, grooves, or pores.

Marshall shows the same substance, grooves, or pores for the purpose of transferring heat.

Since Naef and Marshall are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the same substance and to include grooves or pores as taught by Marshall for the purpose discussed above.

13. Claims 40-43 and 86-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katz in view of Hayashi (5,770,899).

Regarding claims 40-43 and 86-97, Katz shows all of the limitations of the claimed invention except for the coil as a part of a linear motor as a part of stage apparatus as a part of an exposure apparatus. It is noted that the source of heat (1) in Katz could be any component including a coil of a linear motor.

Hayashi shows the coil as a part of a linear motor as a part of stage apparatus as a part of an exposure apparatus for the purpose of making semiconductor device.

Since Katz and Hayashi are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to include the coil as a part of a linear motor as a part of stage apparatus as a part of an exposure apparatus as taught by Hayashi for the purpose discussed above.

14. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall in view of Dobry (5,560,856).

Regarding claim 53, Marshall shows all of the limitations of the claimed invention except for the porous material.

Dobry shows the porous material (10) for the purpose of transferring heat.

Since Marshall and Dobry are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the porous material as taught by Dobry for the purpose discussed above.

15. Claims 84 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katz in view of Dobry (5,560,856).

Regarding claims 84 and 85, Katz shows all of the limitations of the claimed invention except for the porous material.

Dobry shows the porous material (10) for the purpose of transferring heat.

Since Katz and Dobry are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the porous material as taught by Dobry for the purpose discussed above.

Information on How to Contact USPTO

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

5/1/05



DANGLE
PRIMARY EXAMINER